



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,755	02/17/2004	Danny D. Beaver	D-2511Div1/WOD	9773

7590 08/08/2006

William O'Driscoll - 12-1  
Trane  
3600 Pammel Creek Road  
La Crosse, WI 54601

EXAMINER
----------

JIMENEZ, MARC QUEMUEL

ART UNIT	PAPER NUMBER
----------	--------------

3726

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

68

<b>Office Action Summary</b>	<b>Application No.</b> 10/779,755	<b>Applicant(s)</b> BEAVER, DANNY D.	
	<b>Examiner</b> Marc Jimenez	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-17-04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Group II in the reply filed on 6-26-06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1 and 3-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 29 00 672 A1 (hereinafter '672) in view of Barnes (US5896659).

'672 teaches a method of forming a tube, comprising: feeding a tube **17** from a first point (see for example any point on the tube before **11**) to a second point (see for example **4** in figure 2 above reference numeral **14**) of the tube **17** with the feeder (before **11**) being closer to the first point than the second point, simultaneously bending the tube **17** at the second point (see for example **4** in figure 2 above reference numeral **14**) and at an intermediate point (see for example **4** below reference numeral **18** in figure 2) interposed between the first point and the second point while unwrapping the tube **17** from a feeder (a feeder is to the left of reference

numeral **11** in figure 2), and rotating the intermediate point about the second point (see how the tube is bent from figure 2 to figure 3).

'672 teaches the invention cited above with the exception of unwrapping the tube from a feed roll.

Barnes teaches that it is known to unwrap a tube from a feed roll **50** before performing bending operations on a tube **12**.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672 with unwrapping the tube from a feed roll, in light of the teachings of Barnes, in order to provide a continuous supply of tube length to be formed.

Regarding claim 3, note that the tube is formed into a serpentine shape (see figure 3 of '672).

Regarding claims 4-6, see figures 2-3 of '672 where the intermediate point is moved more than the second point while bending the tube. The tube is rotated about the second point continuously in a first direction. Tension is also applied.

4. **Claim 2** rejected under 35 U.S.C. 103(a) as being unpatentable over DE 29 00 672 A1 (hereinafter '672) in view of Barnes (US5896659) as applied to claim 1 above, and further in view of Venables et al. (US4542568).

'672/Barnes teach the invention cited above with the exception of wrapping a heat conductive member around the tube at a location between the first point and the intermediate point.

Art Unit: 3726

Venables et al. teach in figure 1, wrapping a heat conductive member around a tube at a location between a feed point and another subsequent point.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672/Barnes with wrapping a heat conductive member around a tube at a location between a feed point and another subsequent point, in light of the teachings of Venables et al., in order to automatically apply the heat conductive member to the tube.

5. **Claims 7-13 and 25-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over '672 in view of Barnes and Venables.

'672 teaches the invention cited above with the exception of unwrapping the tube from a coil and wrapping a heat conductive member around the unwrapped section of the tube.

Barnes teaches unwrapping a tube from a coil.

Venables teaches wrapping a heat conductive member around an unwrapped section of a tube.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672 with unwrapping the tube from a coil, in light of the teachings of Barnes, in order to provide a continuous supply of tube length to be formed.

Furthermore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672/Barnes with wrapping a heat conductive member around a tube at a location between a feed point and another subsequent point, in light of the teachings of Venables et al., in order to automatically apply the heat conductive member to the tube.

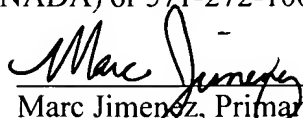
Art Unit: 3726

Note that in figures 2-3 of '672, there are numerous bending points which could be considered third and fourth points respectively. The tube is simultaneously bent and rotated about the points.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is (571) 272-4530. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
\_\_\_\_\_  
Marc Jimenez, Primary Examiner  
Art Unit 3726

MJ  
8-2-06